



Your Best Protection Is Information



Flood Control District of Maricopa County
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www.fcd.maricopa.gov

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If this brochure was mailed to you, chances are your property is in a flood hazard zone and you are required to carry flood insurance. This brochure is designed to provide you with general information to get you started in your flood protection measures. Being insured is not necessarily enough to protect your irreplaceable belongings, your pets, your family, or yourself.

Flood Hazards in Maricopa County

The Flood Control District of Maricopa County (District) works to minimize public and private losses due to flooding in the county.

Floods are the most common natural disaster in the United States. Virtually every U.S. state has experienced floods and everybody has some risk of flooding. In fact, if your property is located in a floodplain, there is a 26 percent chance of experiencing a flood during the life of a 30-year mortgage compared to a four percent chance of fire. Any land area susceptible to being inundated by floodwaters from any source is identified as a floodplain.

If you lived in Maricopa County during January 1993, you are probably familiar with local flood hazards. Nearly every river, creek, and wash in the county swelled during the week-long series of storms.

That flood was one of five major floods that occurred in Maricopa County since 1977. Three of these floods resulted in presidential disaster declarations after homes, businesses and bridges were destroyed or damaged; farmland and dumpsites eroded; and lives were lost.



FYI

Every year property is flooded somewhere in Maricopa County. Sometimes the flooding occurs when local drainage systems fail to carry all the water. Usually, flooding occurs when natural waterways cannot contain the flow of a large rainfall event.



**When Floods are Near,
Steer Clear!**

Natural waterways and the adjacent land are expected to flood during heavy storms. Most of the areas susceptible to major flooding are officially delineated as 100-year floodplains by the Federal Emergency Management Agency (FEMA) on federal Flood Insurance Rate Maps (FIRMs). A 100-year floodplain is an area with a one percent chance of being flooded in any given year. Other areas that routinely flood are also designated on these maps, including areas along elevated railroads, roads and highways; and along irrigation canals and flood control channels. These are generally referred to as ponding zones.

There are some areas in Maricopa County that flood frequently but are not recorded on the federal maps. These areas don't meet the national standards for official designation as a flood hazard area. However, they may still be designated on local flood management maps and are subject to local regulation because of their floodprone nature.

FYI

Newcomers to the area are often surprised to learn that the desert holds immense potential for major flooding. Often, normally dry rivers, washes, and channels become raging torrents in minutes.



Monsoon Season

The amount of rain in Arizona varies from year to year, but one event Maricopa County residents can count on is the "monsoon" season-July, August and September-a period of frequent thunderstorms and heavy rainfall.

A strong annual variation of temperature over a land mass is the primary cause of a monsoon. The end result is a shift in the winds over an area and enough moisture to trigger seasonal rains.

In Arizona, the process starts with hot and dry weather in May and June. Usually the winds are from a dry westerly direction, so humidity is low and temperatures soar above 100 degrees in the deserts. As the atmosphere warms, the jet stream retreats northward. This allows the winds to shift and bring in the

FYI

The monsoon season is more than a nuisance. Monsoon storms are a threat to lives and property.



moisture from a southerly direction. Most of the humid air comes from the Sea of Cortez (Gulf of California) and the Gulf of Mexico. Once the moist air arrives, the strong summer sun heats it, causing the familiar thunderstorm clouds.

Accompanying the monsoon season are other natural hazards such as lightning. Arizona ranks 19th in the nation for fatalities due to lightning, 23rd for lightning flashes per square mile, and 30th for lightning injuries—a set of remarkable statistics for a state with a very short storm season.

Dust storms and flash floods also cause numerous accidents for drivers. Every year, motorists ignore warning signs, enter low-lying wash areas and become stranded, requiring an emergency rescue. In addition, every year winds destroy fences and roofs, knock down utility poles and cause power outages.



FYI

Maricopa County receives 32 percent of its normal yearly rainfall during the monsoon season. Monsoons not only cause heavy rainfall, but also lightning, severe winds, dust storms, and flash floods.

Flood Warning

We live in one of the nation's largest counties (9,228 square miles), within which are thousands of miles of designated floodplains. Often the watersheds feeding these floodplains are small or steep, so the time from rainfall to flooding can be short, sometimes less than an hour. To monitor conditions in these watersheds, along with our constructed flood control facilities (dams, channels and basins), the District operates a flood threat recognition system called ALERT (Automated Local Evaluation in Real Time). Currently, the District system has approximately 450 rain and stream gages throughout Maricopa County and in neighboring areas that affect our watersheds. The gage data is sent by radio waves back to the base station at the District where it is stored and analyzed instantaneously.

FYI

Residents should pay attention to flood watches and warnings issued by the National Weather Service and broadcasted on local television and radio stations.



District staff members are able to relay the gage readings to the National Weather Service, the Maricopa County Department of Emergency Management (MCDEM), and local dam operators. These agencies use this information to issue the appropriate warnings and prepare for evacuations, if necessary.

Also, regional dam operators (such as Salt River Project and Bureau of Reclamation) issue news releases and contact local municipalities when they must release large amounts of water downstream.

MCDEM maintains emergency call lists of properties in certain floodprone areas that have experienced repeated flooding in the past. Residents on these

call lists are notified when streamflow or rainfall gages upstream of their location indicate that flooding is imminent.

Call MCDEM at 602-273-1411 to find out if you are in one of these locations. You can also call this number to learn about evacuation routes, emergency shelter locations, aid for the physically challenged, and other emergency information. You may also report flooding or learn where and how to submit a flood damage report.

FYI

Flash flooding typically results from intense short duration rainfall events, such as the summer monsoons. There may be little or no time for a warning other than a general alert.



Flood Safety

Before a major flood occurs, plan ahead and put together an emergency preparedness kit. Ideas for contents are available at www.redcross.org. If evacuation appears necessary and only if time permits:



- Turn off the electricity at the main power switch and turn off the gas at the main valve.
- Move valuable papers and personal items to upper floors or higher elevations.
- Move outdoor possessions inside, anchor them down or tie them together so they won't be carried away.
- Keep a battery-powered radio handy and tuned to a local emergency broadcast station. Follow all emergency instructions.
- Move to high ground or an established emergency shelter. If it is safe to evacuate by car, take an emergency preparedness kit which should include nonperishable food, water, pet supplies, blankets, a flashlight, dry clothing and any special medications. Be aware that many stores and gas stations will be closed since pumps and registers may not function if electricity has been cut off.
- Do not drive where water covers the road. Part of the road may be washed out or the water may be much deeper than it looks.

If you return to your home and find it has been flooded, air out the home in case of possible gas leaks. Do not turn on gas or electricity until utility representatives have inspected for gas leaks and short circuits. Be sure to also check for structural damage. Report any structural damage as soon as possible to the phone numbers given on the radio or television; to your local permit official; to the Arizona Department of Water Resources (602-771-8500, toll-free 800-352-8488); or to MCDEM (602-273-1411).

Flood Insurance

The Flood Disaster Protection Act of 1973 requires mandatory purchase of flood insurance for buildings mortgaged by federally backed loans that are within an identified National Flood Insurance Program (NFIP) floodplain.

First and foremost: Insure! Standard homeowner policies do not cover flood losses, so special flood policies are required to cover the structure and the contents of the home.

Until the National Flood Insurance Act of 1968, flood insurance in floodprone areas was difficult to obtain and expensive to keep. This Act made it possible for structures and their contents to be covered by affordable flood insurance, although these policies do not cover fencing, privacy walls, swimming pools, landscaping or small storage sheds. Coverage for residential or commercial property contents and/or basements needs to be purchased separately-a requirement of the NFIP, which is managed by FEMA.

Before granting a loan, lenders are responsible for determining if a building is in a flood hazard zone. If it is, the lender will then either "force place" flood insurance on the structure through an insurance company of their choice, or require proof from the buyer that insurance has already been obtained.

Under the NFIP, flood insurance is available for buildings and contents everywhere within Maricopa County, not just buildings within an official flood hazard zone. In most cases, to purchase flood insurance, you will need to acquire a certificate with the elevation of the lowest floor of the structure. In some cases, you may be allowed to complete this federal form yourself. Depending on the type of flood





zone your property is in, you may have to hire an Arizona Registered Land Surveyor to certify the lowest floor elevation.

Be aware that if your home is flooded and you do not have flood insurance, although you may receive emergency aid such as food and temporary shelter, you may not be eligible for other disaster relief or a low-interest loan to restore those items not covered by insurance.

When you sell your property, you and your Realtor may be held responsible for not disclosing to a buyer or a lender that the property is located within a flood hazard zone.

Because of Maricopa County's compliance and overall flood management activities and participation in the NFIP's Community Rating System (CRS), residents of the unincorporated county are eligible for a discount on flood insurance.

To buy a flood insurance policy, call your insurance agent. If your agent does not underwrite flood insurance or if you do not have an agent, you may call the NFIP's toll-free number, 1-888-FLOOD29, to obtain the name of an agent in your area.

FYI

There are limits to the amount of flood insurance you can purchase. The maximum amounts available are:

Single-family homes:	\$250,000
Other residential:	\$250,000
Commercial:	\$500,000

Contents coverage and renter's policies are also available.

Are You in a Flood Hazard Zone?

If you would like to find out if your property is located in a floodplain, you have a few options:

Take a look at the District 100-year floodplain maps online in the Floodplain Management section of the District Web site at www.fcd.maricopa.gov. These maps are designed to assist you with determining your property's floodplain status. The map will not be an official document that can be used for floodplain determination, however.

The District will fax a floodplain determination free of charge. Fax your determination requests to

602-372-6232. The Flood Insurance Rate Map request form is available online in the Floodplain Management section of www.fcd.maricopa.gov. Once you have sent in your request, the District will complete the form with the zone and map information and fax it back to you.

It is important to note that the Cities of Phoenix, Tempe, Goodyear, Avondale, Peoria, Glendale and Scottsdale, and the Towns of Paradise Valley, Fountain Hills, Gilbert, Wickenburg, and Youngtown conduct their own floodplain management.



FYI

Flood Insurance is affordable:

The average flood insurance policy costs \$400 to \$500 per year for about \$100,000 of coverage. In comparison, a disaster home loan can cost you more than \$300 per month for \$50,000 over 20 years.

Flood Protection

Your home or business may have been built prior to the present laws and regulations or before the extent of the flood damage potential for your area became known. Even if your home was built prior to the flood hazard being identified, there are several things, depending on the severity of the risk, which you can do to further reduce flood damage:

Make sure the ground around the structure slopes to allow water to drain away from the building.

If you cannot raise the structure or its lowest floor, consider lowering significant portions of the yard surrounding it. Be sure to allow for proper drainage to minimize standing water without increasing the drainage onto adjacent properties.

Use a waterproof coating or siding for the outside walls from below ground to several feet above.

Build a low retaining wall around the house and keep slide-in panels or sand bags prepared to insert into openings during an emergency.

Make sure drainage pipes, culverts, drainage easements, washes, and other systems that carry runoff on or near your property are properly maintained and clear of obstructions.

Call your local building permit official or floodplain administrator for a list of floodproofing materials and additional methods of floodproofing. Contact a District Floodplain Representative for guidance in selecting a contractor.

FYI

If you live in the unincorporated area of Maricopa County, be sure your insurance agent knows that you qualify for a 25-percent discount.



Drainage System Maintenance

Stormwater runoff can travel through gutters, storm drains, local channels, and washes before entering delineated floodplains. Damaging flooding can occur along these local drainage sources, as well as within delineated floodplains. Any activity in these local drainage sources must comply with the Drainage Regulations for Maricopa County. The Maricopa County office of Planning and Development is responsible for administering the Drainage Regulations for the unincorporated areas of Maricopa County. The purpose of the Drainage Regulations is the reduction of existing and potential flooding caused by stormwater.

These regulations ensure that new development does not increase water runoff, divert flows, or back water onto other properties. Regulating new development and enforcing drainage requirements reduces the cost of both future flood damages and remedial flood control measures.



Drainage systems include artificial lakes, detention basins, storm drains and flood control channels. Additionally, there are private drainage easements and small washes that may drain surface runoff through your property. Few of these systems involve floodplains or appear on maps.

When you landscape or fence an area, you must be careful not to inadvertently obstruct a drainage easement or another hard-to-detect, yet essential drainageway. Blocking a drainageway can inadvertently cause a diversion or backup of floodwater into your home or onto your neighbor's property. Check with the Drainage Branch of the Planning and Development Department because it is generally against the law to make such

improvements if they have a negative impact on adjacent property. For general questions about drainage call 602-372-4114. Debris dumped in watercourses can cause stormwater to be diverted around natural or designed watercourses, causing flooding to occur in unexpected areas. The dumping of such items as refrigerators, bathtubs, cars, couches, mattresses, concrete, landscaping materials, soils, boulders, sand, and pet and animal waste in watercourses is illegal and unsightly. To report obstructions or illegal dumping within streams, washes, or drainage facilities within areas of unincorporated Maricopa County, call the Drainage Branch of Maricopa County Planning and Development at 602-506-3694.



FYI

The intent is to ensure that drainage is conveyed in a manner that does not adversely impact any property, including other property within a development.

Natural and Beneficial Functions of Floodplains

Besides their primary function of conveying floodwaters, floodplains and natural waterways are important wildlife habitat areas that need to be protected. They also offer a wide range of other benefits to the community: natural flood and erosion control, natural water filtering and groundwater recharge possibilities, and multiuse and recreational opportunities.



Natural floodplains are inviting during sunny weather, however when it is raining, washes and riverbeds can turn into raging rivers in minutes. Just because it is not raining, doesn't mean a wash in your neighborhood will not flow. Avoid these areas when flooding occurs.

FYI _____

If you want to make changes to land within a 100-year flood hazard area, local regulations require you to obtain a permit or authorization before you build, add, grade, install walls, or install fencing.

Floodplain Use Permits/Variances

The District enforces floodplain regulations, which regulate the location and construction of buildings, grading, and other development within designated floodplains. The District will inspect properties to make sure structures or improvements in the floodplain will not cause adverse impacts to properties upstream or downstream.

Before issuing a floodplain use permit, the District undertakes a detailed review of the hydraulic conditions that affect the subject property, and then ensures that any proposed improvements conform to the County's Floodplain Regulations.



Contact the District at 602-506-1501 and ask to speak with a Floodplain Representative before making any improvements or to report unauthorized construction.

The federal and the county floodplain regulations also require that if the cumulative cost of reconstruction, repair, rehabilitation, addition or other improvements to a building over a five-year period equals or exceeds 50 percent of the building's market value, then the building must meet the same construction requirements as a new building.

Note: Some uses within a watercourse may also require approval from state or federal agencies.

FYI

It is important that you are aware of natural and artificial drainage systems in your area, so that you don't disrupt the natural or planned flow of water from your property onto adjacent property.

Important Points to Remember

Information and assistance are just a phone call away.

To determine if your property is in a floodplain, or for flood protection assistance, please call the District at 602-506-1501 and ask to speak to a Floodplain Representative.

Flood insurance coverage is available for both the structure and its contents.

Single-family residences can now be covered for up to \$250,000 on the structure and \$100,000 on the contents.

Commercial structures can be insured to a limit of \$500,000 for the building and \$500,000 for the contents.

Buy now! There is up to a 30-day waiting period.

If the initial purchase of flood insurance is in connection with acquiring, increasing, extending or renewing a loan, there is no waiting period. If the initial purchase of flood insurance is made during the 13-month period following the issuance of a revised flood map for a community, there is one-day waiting period. In other cases, there is usually a 30-day waiting period before the policy is effective. For more information, call the National Flood Insurance Program toll-free at 1-800-427-4661, TDD 1-800-427-5593.

For answers to frequently asked questions regarding flood insurance, please visit:

www.fema.gov/business/nfip/qanda.shtm
or www.floodsmart.gov

Useful Telephone Numbers

Flood Control District of Maricopa County
602-506-1501

Maricopa County Department of Emergency Management
602-273-1411

Arizona Department of Water Resources
602-771-8500

Contact Us

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